ATTRIBUTION OF RESPONSIBILITY AS A FUNCTION OF PERCEIVED SIMILARITY, OUTCOME INTENSITY AND LOCUS OF CONTROL

By

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INTRODUCTION

Background and Purpose

Responsibility is an important variable in both interpersonal relations and our legal system. According to Webster's New World Dictionary (1960), to be responsible is to be answerable or accountable as being the cause, agent or source of something. Thus, if a person is seen as being responsible for producing a negative outcome he is blamed, whereas he is thanked (or given credit) for a positive outcome.

Attribution of responsibility (which will be referred to as AR) is influenced by a number of personality and situational variables, as shown by the work of Piaget (1932), Heider (1958a), Wright (1960) and Shaw and Sulzer (1964). It is evident from these studies that the amount of perceived control of an outcome (that is, the degree to which a person is seen as the originator of an outcome) is an important factor in influencing the degree of personal responsibility attributed to an individual. The perceived degree of control of the outcome by environmental factors is reflected in AR as initially proposed by Heider (1958a), and experimentally confirmed by Shaw and Sulzer (1964). They found that the greater the degree of perceived control of an outcome by environmental factors and the more the individual was seen as being justified for having produced it, the lower would be the degree of responsibility attributed to him for having produced it.

Rotter, Seeman and Liverant (1962) suggested that individuals differ in their beliefs concerning the control which environmental factors exert on outcomes. This belief was seen as indicative of a generalized expectancy on the part of the individual, operating in many situations. These theorists proposed a scale designed to measure an individual's beliefs concerning the relative control of outcomes by environmental factors, the Internalization-Externalization of Control Scale (I-E). Since responsibility is attributed for a specific outcome, and the I-E Scale measures a generalized expectancy toward outcomes, there should be differences in the perception of causal relations by individuals who have differing scores on the I-E Scale. If such a difference exists, its relevance to many aspects of our society (e.g., trial by jury) is apparent. Unfortunately, experimental evidence relative to this expectation is lacking.

Another aspect of the process of attributing responsibility that has received virtually no attention is the relationship between the attributor and the individual (target) to whom responsibility is being attributed. The experiments reported in the literature that have involved measures of attractiveness of the target and the extent to which the target is seen as having caused a specific outcome have followed much the same procedure as that used in our jury trial system. The attributor knows what the specific outcome is prior to assessment of the attractiveness of the other. The effects of prior attractiveness of the target for the attributor on the extent of responsibility attributed to the target for the production of some outcome have not been investigated.

The present study was designed to investigate the effects upon AR of (1) the degree of interpersonal attractiveness between the attributor and the target and (2) the perceived locus of control (I-E). Since the intensity of the outcome is known to influence AR (Shaw and Sulzer, 1964), and since it may be expected to interact with other variables, outcome intensity was included as an additional variable.

Literature Review

The major portion of the literature regarding AR has been based on the works of Piaget and Heider, especially Heider's discussion of the perception of causality and the causal structure. The review of the relevant literature is to consist of three sections: (1) the first of these will deal with various aspects of AR, (2) the second section will be concerned with the relationship between similarity and attractiveness and the relationship of each of these to AR, and (3) the last section will deal with I-E and the relationship between I-E and AR.

(1) Aspects of AR

Perception of causality. Piaget (Flavell, 1963) concluded that through development two types of causal perceptions were observed: psychological causality and physical causality. Inferences of intention on the part of the agent were restricted to the former.

Proceeding from the work of Piaget, Heider (1958a) advanced the concepts of personal and impersonal causality. Within personal causality, Heider conceived personal responsibility as the resultant of (1) identification of the causal agent of a specific event, (2) inferences regarding the intentions of the agent, and (3) the perceived relative contribution of environmental factors to the event. Heider (1958a) stated that,

> . . . in general, the more they [environmental factors] are felt to influence the action, the less the person is held responsible. One may consider the different forms in which the concept of responsibility has been used as successive stages. (P. 113)

The successive stages or levels in AR were regarded as developmental in nature and corresponding to increasing "sophistication" with respect to cognitive processes. As used by Shaw and Sulzer (1964), "sophistication" is indicative of the individual's degree of socialization with respect to the cultural norms regarding the use of the specific variables. The successive stages or levels

> . . . may also be viewed as descriptions of the information which is sufficient for attribution of personal responsibility at each level of sophistication. (Sulzer, 1964, p. 13)

Conceptualization of AR. Labeling and restating the five levels which Heider had developed, Shaw and Sulzer (1964) presented them as the causal structure of an event.

> 1. Association - the person is held responsible for any effect that he is connected with in any way. In Piaget's (1955) terms, responsibility at this most primitive stage is determined by syncretistic, pseudocausal reasoning rather than by consideration of objective causal connections. Thus a person may be blamed for harmful acts committed by his friends.
>
> 2. Commission - the person is held responsible for any effect that he produced by his actions even though he definitely could not have foreseen the consequences of his actions. As in Piaget's (1932) "objective responsibility" the person is judged according to what he does but not according to his motives.
>
> 3. Foreseeability - the person is held responsible for any foreseeable effect that he produced by his actions even though the

> effect was not a part of his goals or intentions. He is held responsible for the lack of restraint that a wider cognitive field would have produced.
>
> 4. Intentionality - the person is held responsible for any effect that he produced by his actions, foreseeing the outcome and intending to produce the effect. Corresponds roughly to Piaget's "subjective responsibility" in which motives are the central issue.
>
> 5. Justification - the person is held only partly responsible for any effect that he intentionally produced if the circumstances were such that most persons would have felt and acted as he did. That is, responsibility for the act is at least shared by the coercive environment. (P. 39)

Conceptually then, AR may be seen as consisting of at least two factors, (1) the designation of a causal agent in a social situation and (2) a willingness to sanction the causal agent for his behavior (Wright, 1963; Shaw and Sulzer, 1964).

Variables influencing AR. Studies concerning AR have indicated at least three categories of variables which may account for the major portion of the variance in AR, (1) the causal structure of the event (Sulzer, 1964), (2) the outcome characteristics of the event (Shaw and Sulzer, 1964; Walster, 1966), and (3) the personality characteristics of the attributor (Wright, 1960; Cuthbert, 1966; Shaw and Schneider, 1967).

The causal structure of the event appears to have the greatest effect on AR. Within the causal structure as presented by Shaw and Sulzer (1964), actors at level 4 (Intentionality) receive the greatest amount of AR.

The outcome characteristics that have received attention are the quality and intensity of the outcome. Consistent findings have been that AR is greater for (1) negative than for positive outcomes (Sulzer, 1964; Shaw and Sulzer, 1964), and (2) high-intensity than for low-intensity outcomes (Sulzer, 1964; Walster, 1966).

With respect to the personality characteristics of the attributor, Wright (1960) found a relation between AR and self-acceptance; Cuthbert (1967) found that high authoritarians attribute more responsibility for foreseeable, unintentional effects and for justified outcomes than do low authoritarians; Shaw and Schneider (1967) found essentially no relation between AR and intellectual competence. Based on the limited evidence available, it appears that personality variables are relatively weak determinants of AR.

(2) AR, Attractiveness and Similarity

AR and interpersonal attractiveness. Previous studies involving responsibility and interpersonal attractiveness differ from the present investigation in two aspects. First, these studies, following Pepitone (1958), regarded responsibility, in essence, as identifying the social agent who caused a particular social event or act. Responsibility was only one of the three dimensions of social causality proposed by Pepitone; the other two were intentionality and justification. The purpose of the actor determined the perceived intentionality, with good intentions being inferred where the purpose of the actor was to benefit or accommodate the subject, and bad intentions where the purpose was to deprive or harm the subject. In general, ". . . justifiability of interpersonal acts depends upon the degree to which they reflect conformity with various logical, social and other kinds of standards" (Pepitone, 1958, p. 259). As proposed by Pepitone, the concept of social causality seems to include both AR and the assignment of sanctions.

Second, the prior studies used interpersonal attractiveness as the dependent variable, whereas in the present study it is used as an independent variable.

The results of the relevant studies (Pepitone, 1958; Pepitone and Sherberg, 1957; Caron, 1965) agree that (1) responsibility (causality) was essentially unrelated to sociometric ratings of interpersonal attractiveness and (2) intentionality and justification were each significantly related to the obtained measure of attractiveness.

Interpersonal attractiveness and similarity. A number of studies (Newcomb, 1953; Riecken and Homans, 1954; Byrne and Griffitt, 1966; Byrne, Griffitt and Stefanick, 1967) have shown that a person tends to like or be attracted to a person with whom he has beliefs and attitudes in common. Byrne, Griffitt and Stefanick (1967) have attempted

> . . . to integrate personality similarity into the more general framework of a reinforcement theory of attraction. . . . Attitude statements are conceptualized as positive or negative reinforcements in that they provide evidence of one's effectiveness in perceiving and interpreting his stimulus world. (P. 82)

When placed in this framework, the amount of reinforcement (proportion of similar attitudes, beliefs, characteristics, etc.) can be seen as an expectancy variable, that is, based on prior experience an individual anticipates pleasant interactions with others who have the same attitudes, characteristics, etc., as himself. The findings of a positive linear relation between attraction and proportion of similar attitudes (Byrne, Griffitt and Stefanick, 1967; Griffitt, 1966) serves to partially validate this position.

AR and similarity. Fauconnet (1928, cited in Heider, 1958b) discussed the attribution of a crime to a person. He proposed several types of similarity as providing the basis for AR. One of these types was that of "affective similarity."

> It is easy to assume that persons are responsible who are not loved. In a general way, "antipathy" arouses suspicion; and a special "antipathy" arouses a special suspicion. Persons dreaded for their brutality are the first ones to be suspected of a violent crime; despised persons, of a mean act; and those who arouse disgust, of an unclean act. People with bad reputations are accused and convicted on the basis of evidence which one would consider insufficient if an unfavorable prejudice did not relate them to the crime in advance. On the contrary, if the accused has won our favor we demand irrefutable proof before we impute to him the crime. (In Heider, 1958b, p. 7)

However, there seems to be no empirical evidence supporting Fauconnet's position that AR will be affected by the degree of prior attractiveness between attributor and target.

Considering the relevant literature that has been covered, several relationships can be suggested. The attractiveness of another individual is often concomitant with and in proportion to the degree of similarity on a number of dimensions perceived as existing between the other individual and the perceiver. Additionally, the reluctance to hold an attractive (or similar) other person responsible should result in the attractive (or similar) other person being seen as having more justification for having produced an outcome than would a less attractive other person. Regardless of the degree of perceived attractiveness (or similarity), actors will be held more responsible for producing a high-intensity negative outcome than for a low- or moderate-intensity negative outcome.

(3) I-E and AR

Social learning theory (Rotter, 1954) points to the influence on an individual's behavior of his beliefs concerning the relation between his actions and their reinforcement.

> . . . The potential for any behavior to occur in a given situation is a function of the person's expectancy that the given behavior will secure the available reinforcement, and the value of the available reinforcement for that person. (Lefcourt, 1966, p. 207)

Although this perception of the causal relationship is not considered to be all-or-none, the extremes of this dimension are labeled internal and external. When an individual perceives a reinforcement as ". . . contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control" (Rotter, 1966, p. 1). An individual who perceives little causal relation between an act and its effect is classified as having a belief in external control. An individual falling at either extreme would be considered maladjusted by most standards; a pure case of belief in external control would be a complete fatalist, while only a "superman" would believe that all effects are within his control. The individual's belief in degree of control of reinforcement is considered to be a generalized expectancy, operating trans-situationally.

Both Rotter (1966) and Lefcourt (1966) speculated on a possible relation between an individual's perception of causal relationships and his position on the dimension of external versus internal control of reinforcement. High externalization of control would be equivalent to weighting heavily the effect of environmental factors.

It will be recalled that as proposed by Heider (1958a), one of the variables influencing the degree of attributed personal responsibility was the perceived relative contribution of environmental factors to the event. The more the influence the environmental factors were seen as having in producing an outcome, the less responsibility the actor was seen as having.

When considered in conjunction with the previously considered relationship between AR and similarity, it would seem reasonable that internalizers and externalizers would be influenced in their attribution of responsibility as a function of their differing perceptions of causal relations. Taken together, social learning theory and Heider's theory predict that the greater an individual's belief in the externalization of control the more influence he will attribute to the environment, and the lower the responsibility attributed to an actor for having produced it. However, if internalizers assume a similar expectancy on the part of those whom they perceive as being similar to themselves, the internalizers would be expected to perceive the intentionality of the other as being very high when a negative outcome is produced. It is possible that for those actors considered to be dissimilar to themselves, the internalizers might be somewhat more objective and demonstrate a greater willingness to take the circumstances into consideration in their assignment of responsibility for having produced an outcome. On the other hand, externalizers would see all actors as having less personal control and therefore less responsibility, weighting heavily the effect of environmental factors. Therefore, externalizers could be expected to attribute responsibility almost completely on the basis of perceived attractiveness (similarity).

Hypotheses

Based on the review of the relevant literature and the stated purposes of this study, several hypotheses follow. These are:

1. AR will be greater for high- as compared with low-intensity negative outcomes.
2. AR will be greater for a dissimilar as compared with a similar target.
3. For the low-intensity outcomes
    a. Internalizers will attribute more responsibility to all targets than will externalizers,
    b. Internalizers will attribute more responsibility to targets seen as similar to themselves than to dissimilar targets,
    c. Externalizers will attribute more responsibility to targets seen as dissimilar to themselves than to similar targets.
4. For the high-intensity outcomes, there will be no significant differences among the experimental conditions with regard to degree of AR.

METHOD

Experimental Design

The experiment was a 2 x 3 x 2 factorial design. The three variables were: (1) intensity of the negative outcome, (2) the perceived similarity of an other, and (3) perceived locus of control (I-E).

Intensity

There were two levels of intensity of the negative outcome, low and high.

Similarity

Under each of the two intensity levels, the subjects were given instructions designed to produce: (1) perceived similarity between the subject and a hypothetical other person, or (2) perceived dissimilarity between the subject and a hypothetical other person, or (3) in the control condition, no reference to the degree of similarity of the hypothetical other person.

Perceived Locus of Control

Within each of the six conditions produced by combining the first two variables, the subjects were to be divided at the median with respect to their scores on the I-E Scale.

Subjects

The 180 subjects were male undergraduates at the University of Florida, enrolled in introductory psychology courses. They participated in the experiment to fulfill course requirements. The subjects volunteered for an experiment involving "decisions." There were thirty-six testing sessions, with five subjects participating in each of the sessions.

Stimulus Materials

The stimulus materials consisted of a test booklet with each of the four sections of the booklet administered separately. For the experimental groups the booklet contained: (1) Rotter's Internal-External Control of Reinforcement Scale (labeled Social Reaction Inventory), (2) a paragraph explaining the purported purpose of the experiment, (3) a set of instructions designed to produce either perceived similarity or perceived dissimilarity between the subject and the hypothetical person described in the booklet, (4) a series of nine semantic differential-type evaluative scales (measuring both evaluation and attraction of the hypothetical person) designed to assess the effectiveness of the induction of perceived similarity or dissimilarity, (5) a description of the procedure and outcome of an experiment purportedly designed and conducted by the hypothetical other person, and (6) an eleven-unit scale on which the subject indicated the amount of responsibility which he wished to attribute to the hypothetical other person for the experimental outcome. For the control groups, section number three of the booklet as described above was deleted.

There were two basic forms of the booklet, one describing the high-intensity negative outcome and the other describing the low-intensity negative outcome. For each form of the booklet, one-third of the booklets contained instructions designed to produce perceived similarity, one-third were designed to produce perceived dissimilarity, and one-third contained no material related to similarity. There were six experimental forms of the test booklet, with thirty subjects receiving a particular form (see Appendix A for examples of the experimental material).

Procedure

When the five subjects for a testing session arrived at the laboratory, they were randomly assigned to one of the six different experimental treatment conditions. The subjects were seated and the following introductory information was given them.

> This is one part in a study that is designed to investigate what cues people use in forming impressions of others in situations where they have very little information about the other person. It is possible that people having different viewpoints and characteristics will use different cues in forming impressions. I have several forms which I would like to have each of you complete. I want to assure you that there are no objectively right or wrong answers to these forms; your impressions and reactions are the only answers. During the course of this session, you will be given items of information, either directly or indirectly, concerning a hypothetical individual. I would like for you to build up an impression of this person, based on the information which you receive and the particular manner in which you evaluate this information. This hypothetical person will be referred to by the designation of X in each of the forms which you will receive.

At this point, the first form (the I-E Scale) was distributed to the subjects.

> The only identification which we are requesting you to provide us with is your age, classification, and the letter which is on each of the desks at which you are seated. This form is designed to assess some of your general impressions. Are there any questions? You may begin.

After the subjects had completed the I-E Scale, the forms were collected and the form containing (1) introductory paragraph, (2) instructions pertaining to similarity of the hypothetical other, and (3) the evaluative scale, was given to each of the subjects. The instructions appearing at the top of the form were mentioned and the subjects were told:

> Each of you has the same information concerning an individual. What we are interested in is how you personally feel about such an individual. We react to people in various ways. Many times we find ourselves in interaction with people about whom we have almost no information. Please consider the information that you have and use the rating form to convey to me what your impression would be of a person having the described characteristics.

After all the subjects had responded to this form, the forms were collected, and the third form (the description of a hypothetical experiment) was distributed.

> Please read this form carefully, keeping in mind that the individual referred to as X is the same person that you previously rated. After reading the form you are requested to consider the outcome and the events that lead to the outcome.

The subjects were given sufficient time to read carefully the information concerning the hypothetical experiment. They were then given the fourth form (a measure of responsibility for the specified outcome) and the following instructions.

> This form refers to the same individual as the other forms. You are to determine if each individual was responsible for the outcome of the experiment. If a person is responsible for something, that means we might blame him for it or thank him for it. If you think that an individual was NOT responsible for the outcome, mark the zero in the line of numbers that you see beside the individual's letter. If you determine that he was responsible for what happened, then check one of the numbers from 1 to 10 in the line of numbers beside his letter. If you think he was VERY responsible, mark 10. If you think he was less responsible mark one of the smaller numbers. The less responsible you believe he was, the smaller the number you check.

After the subjects had completed the assignment of responsibility, the forms were collected and an unmarked responsibility rating form was placed in the middle of the table around which the subjects were instructed to sit. They were then told:

> The form that you have just completed represented your individual assessment of how responsible each of the three individuals were for the outcome of the experiment. If you will, please discuss the experiment and outcome as a group, and, if possible, arrive at a group decision as to the extent of responsibility of each of the three individuals. A group decision is to be preferred, but if after thorough discussion you are unable to reach a decision on which everyone agrees, please take a poll of the group and record the degree of responsibility that each member wishes to assign to each of the three individuals.

With the exception of those instructions specifically mentioning perceived similarity or dissimilarity, the instructions given the experimental groups and control groups were the same.

After the subjects completed the discussion and group attribution of responsibility, the forms were collected. The subjects were then informed as to the purpose of the experiment and were requested not to divulge any information concerning the experiment to others.

RESULTS

Scoring Procedure

A check on the effectiveness of the experimental manipulation of perceived similarity or dissimilarity was by means of the scores on both the evaluation scales and the attraction scales. The score on the evaluation of the hypothetical other was the sum of the subject's response to each of the seven scales. The possible range of scores was from 7 to 49, with the higher score indicating a more positive evaluation of the other. The attraction of the hypothetical other score was the sum of the subject's responses to two semantic differential-type scales measuring acceptance of the other both as an individual and as a work partner. The possible range of scores was from 2 to 14, with 14 representing the greatest attraction of the hypothetical other.

The degree of AR was the number indicated by the subject (or the group) on the scale of responsibility. The scores had a possible range of 0 to 10, with 10 representing the greatest degree of responsibility.

Analysis of the Effectiveness of Manipulation Scales

Evaluation

The 2 x 3 analysis of variance carried out on the evaluation scores is summarized in Table 1. Means and standard deviations of the evaluation scores for each treatment combination are reproduced in

Appendix F. The effectiveness of the manipulation is indicated by the effect of the similarity variable on the evaluation of the hypothetical other which was significant at less than the .001 level of significance. A follow-up of the significant analysis of variance, with the Newman-Keuls method (Winer, 1962), indicated that the means for each of the three similarity conditions were significantly different from each other with a probability of less than .01 (see Appendix G). In the condition of induced perceived dissimilarity the evaluation of the hypothetical other was the lowest, with the highest evaluation being given to the hypothetical other in the perceived similar condition. The control group, given no information concerning the hypothetical other outside of his age, sex and academic classification, had an evaluation mean that fell between the perceived similar and perceived dissimilar condition. Therefore, the similarity manipulation was effective.

TABLE 1

SUMMARY OF THE ANALYSIS OF VARIANCE FOR THE EVALUATION SCORES

Source	df	MS	F
Outcome intensity (I)	1	1	
Similarity (S)	2	4516	138*
I x S	2	5.5	
Error	174	32.7	

$^*F_{.99}(2,174) = 4.76$

Attraction

The 2 x 3 analysis of variance carried out on the attraction scores is summarized in Table 2. Means and standard deviations of the attraction scores for each treatment are reproduced in Appendix F. The effectiveness of the manipulation is indicated by the effect of the similarity variable on the attraction of the hypothetical other, which was significant at less than the .001 level of significance. A follow-up of the significant analysis of variance with the Newman-Keuls method (in Appendix G) indicated that the means for the perceived similarity condition and the control condition were each significantly different from the condition of perceived dissimilarity with a probability of less than .01. The perceived similar and the control condition means also differed at the same statistically significant level. As with the evaluation scores, the perceived similar other was seen as most attractive, the control condition mean was next and the perceived dissimilar other was least attractive.

TABLE 2

SUMMARY OF THE ANALYSIS OF VARIANCE FOR THE ATTRACTION SCORES

Source	df	MS	F
Outcome intensity (I)	1	8.1	1.40
Similarity (S)	2	453.9	78.66*
I x S	2	2.2	
Error	174	5.77	

*$F_{.99}(2,174) = 4.76$

For both the evaluation and attraction scores, the analysis of variance was carried out to ascertain that no differential treatment was given the subjects as a function of knowledge of the condition to which they had been assigned. The insignificant F that was obtained due to the effect of the outcome intensity variable verified this. Subsequent to the analysis of variance, the intensity levels were collapsed, with the Newman-Keuls procedure being carried out on the three levels of similarity only.

Analysis of the Relationship between AR and I-E Scores

Several of the hypotheses predicted varying relationships between AR scores and I-E scores as a function of the instructions. A 2 x 3 x 2 analysis of variance with unequal n was carried out (see Appendix J). With respect to the relationship between AR scores and I-E scores, the obtained F was less than 1.0, indicating a lack of relationship. In addition to this analysis, a Pearson product-moment correlation coefficient was computed for each of the six treatments between the two sets of scores. The correlation coefficients are presented in Table 3. Tests on the significance of the coefficients indicated that none differed significantly from zero or from any other coefficient. Taken together, these two results were interpreted as indicating that there is essentially no relationship between degree of responsibility attributed to another and the attributor's score on the perceived locus of control dimension.

TABLE 3

CORRELATIONS FOR DEGREE OF RESPONSIBILITY ATTRIBUTED AND PERCEIVED LOCUS OF CONTROL SCORES
(n = 30)

Low-intensity			High-intensity		
Perceived Similarity	Perceived Dissimilarity	Control	Perceived Similarity	Perceived Dissimilarity	Control
-.10	-0.05	.16	.15	-.14	-.09

Analysis of the Effects on AR of Perceived Similarity and Level of Outcome Intensity

Since there was essentially no relationship observed between I-E scores and AR scores, the I-E dimension was collapsed and a 2 x 3 analysis of variance was carried out with level of outcome intensity and level of perceived similarity as the independent variables. The results are presented in Table 4.

TABLE 4

SUMMARY OF THE ANALYSIS OF VARIANCE FOR THE INDIVIDUAL ATTRIBUTION OF RESPONSIBILITY

Source	*df*	*MS*	*F*
Outcome intensity (I)	1	29.6	2.53
Similarity (S)	2	35.37	3.02
I x S	2	34.71	2.96
Error	174	11.69	

$F_{.95}(2,174) = 3.04$

$F_{.99}(2,174) = 2.34$

The hypothesis that a greater degree of responsibility will be attributed for high- as compared with low-intensity outcomes was not supported. Examination of Table 4 indicates that the effect of the intensity variable did not reach an acceptable level of significance.

The similarity variable (similar vs. dissimilar vs. control) was significant at less than the .06 level of significance, supporting the hypothesis that perceived similarity between the attributor and the target has an influence on the degree of responsibility attributed to the target. The Newman-Keuls procedure for comparison of the means showed that the perceived similar other was held significantly less responsible than the perceived dissimilar other. Neither of the two similarity conditions was significantly different from the control condition (see Appendix D). Inspection of the mean responsibility scores in Table 5 reveals that this effect was stronger in the high-intensity outcome, contrary to the hypothesis that it would be observed only in low-intensity outcomes.

TABLE 5

MEANS AND STANDARD DEVIATIONS FOR INDIVIDUAL ATTRIBUTION OF RESPONSIBILITY

		Perceived Similar	Perceived Dissimilar	Control
Low-intensity	M	6.03	6.53	5.37
	SD	4.02	3.57	3.45
High-intensity	M	5.17	7.73	7.47
	SD	3.75	2.77	2.71

However, the analysis of variance carried out on the group attribution of responsibility reveals a different pattern of results. The results are summarized in Table 6. For the attribution of responsibility by the group, neither the similarity variable nor the interaction of the similarity and outcome intensity variable significantly affected the degree of responsibility attributed. For the group attribution, the outcome intensity variable was significant at less than the .05 level of significance, thus supporting the hypothesis concerning the effect of outcome intensity on the degree of responsibility attributed to an actor. The mean responsibility scores are presented in Table 7.

TABLE 6

SUMMARY OF THE ANALYSIS OF VARIANCE FOR THE GROUP ATTRIBUTION OF RESPONSIBILITY

Source	*df*	*MS*	*F*
Outcome intensity (I)	1	23.4	4.18
Similarity (S)	2	7.2	1.29
I x S	2	8.2	1.46
Error	30	5.6	

$F_{.95}(1,30) = 4.17$

TABLE 7

MEANS AND STANDARD DEVIATIONS FOR GROUP ATTRIBUTION OF RESPONSIBILITY

		Perceived Similar	Perceived Dissimilar	Control
Low-intensity	M	5.5	5.0	6.0
	SD	3.27	1.68	2.90
High-intensity	M	5.3	8.3	7.6
	SD	2.67	1.64	1.37

DISCUSSION

Evaluation and Attraction

The effectiveness of the instructions in producing perceived similarity or dissimilarity between the attributor and the target was beyond expectations. The location of the mean for the control group on both evaluation and attraction represents an additional check on the manipulation. The subjects in the control group were for the most part very similar to the characteristics given them for the hypothetical individual, those of age, sex and academic classification. It would follow that they would evaluate the hypothetical other higher and be more attracted to him than if they had been told that he was very dissimilar to themselves.

However, it must be kept in mind that this manipulation represents a very weak treatment insofar as salience is concerned. The subjects are responding with respect to a hypothetical other rather than someone with whom they have interacted. Information concerning the hypothetical other is more isolated for the subjects than would be expected for the case of a known, actual individual. This aspect might account for the failure of the similarity variable to produce a significant effect on the group attribution of responsibility. In the group discussions concerning the responsibility of the hypothetical other, the degree of similarity was rarely mentioned. The lapse of time and involvement in the group discussion may have served to attenuate the effect of the similarity variable for the group data in comparison with the significant effect observed for the individual data.

Individual AR and I-E Scores

The lack of relationship between these two variables in the analysis of the results is puzzling in light of the conceptual overlap that exists between them. It may be that the perceived locus of control is only applicable to self-perceptions. The individual may not necessarily perceive the same relationship between actions of others and their reinforcements that he perceives between his own actions and reinforcements. Some data that support this are presented in Appendix I. A sample of 18 males completed the I-E Scale and then indicated on a seven-point scale where they saw the hypothetical other from this study as located on the internal vs. external control dimension. For the most part the subjects saw the hypothetical other as being more internal than external (M = 2.56; SD = .90). A score of 7 indicated complete externality. That an individual should perceive causal relations differently, contingent upon self being involved in the outcome, is unlikely. The conceptualization of the perceived locus of control dimension does not include differential perceptions of causal relationships. For the externalizer, to perceive all others as having more control over their outcomes than he saw himself as having, would seem conducive to the development of feelings of such factors as anxiety, frustration and general lack of competence. It may be that the individual must perceive himself as having at least a modicum of control over the outcome for any relationship to be observed between I-E score and AR. This may represent a potential limiting condition on the construct of internal vs. external control of reinforcement that would seem worthwhile to explore in greater depth.

Individual AR, Outcome Intensity, and Perceived Similarity

The nonsignificant differences between the two intensity levels with respect to the mean responsibility was an unexpected result. The fact that the level of responsibility assigned the hypothetical other for the low-intensity outcomes was near the midpoint of the scale makes this result even less clear. One of the factors that might have affected the dependent variable was mentioned in the group discussion. The subjects often took into consideration the potential that existed in a situation, that is, how much an individual could have been harmed given that situation. In the low-intensity outcomes there was little danger to the individual. This factor and the often expressed desire of the subjects to be objective about determining responsibility may have been the major influences in the subjects' assignment of virtually the same level of responsibility for all the low-intensity outcomes.

Even though not warranted by the overall analysis results, the high-intensity outcomes were examined separately to ascertain the strength of the relationship between similarity and AR when the potential for harm was relatively high (see Appendix K). Within this condition there were significant differences of responsibility attributed to the hypothetical other as a function of perceived similarity. The perceived similar other was seen as significantly less responsible for producing the outcome than the hypothetical other in either of the other two conditions. The control condition and the perceived dissimilar other condition were not significantly different from each other. It would seem worthwhile to determine the degree of potential harm that must be present in a situation for this differential attribution to be observed.

Group AR, Perceived Similarity, and Outcome Intensity

For the group data, the only overall result that reached an acceptable level of significance was the differential responsibility attributed as a function of outcome intensity. Examination of Table 7 indicated one of the factors that may have influenced this result. The groups seem more in agreement (less variability) concerning the degree of responsibility attributed to an individual than is observed in the individual data, although in no case was this difference statistically significant. The seeming reluctance on the part of many of the subjects to assign high degrees of responsibility may be due to the context of the situation. It is a psychological experiment and they may wish to appear more objective and less emotionally influenceable than might be the case with a different type of situation.

While the effect of the similarity variable did not reach an acceptable level of significance, inspection of Table 7 shows that the mean responsibility differences are greater for the high- than for the low-intensity outcomes.

Proceeding on the basis of curiousity satisfaction rather than accepted statistical procedures, the high-intensity outcomes were examined separately by means of a one-way analysis of variance (see Appendix L). The results indicated that there were significant differences in responsibility as a function of perceived similarity, with the perceived similar individual being held less responsible. For the high-intensity outcomes, the results of the individual AR and the group AR indicate the same relationship between responsibility scores and perceived similarity. In both cases, the perceived similar individual is held significantly less responsible than is a perceived dissimilar individual.

In light of the abstractness of the information given the subjects, the results of this study are most acceptable. This represents the first laboratory demonstration of a phenomenon that has long been accepted by naive or common-sense psychology, that attractive others are held less responsible for producing negative outcomes than are less attractive others. It further attests to the validity of the basis underlying the procedure of our trial-by-jury system of not having jurors who are acquainted with the defendant.

APPENDICES

APPENDIX A

SOCIAL REACTION INVENTORY

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you most strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet. Remove THIS ANSWER SHEET NOW. Print your name and any other information requested by the examiner on the answer sheet, then finish reading these directions. Do not open the booklet until you are told to do so.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Find the number of the item on the answer sheet and black-in the space under the number 1 or 2 which you choose as the statement most true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

REMEMBER

Select that alternative which you personally believe to be more true.

I more strongly believe that:

1. a. Children get into trouble because their parents punish them too much.

   b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck.

   b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.

   b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world.

   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a. The idea that teachers are unfair to students is nonsense.

   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader.

   b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. No matter how hard you try, some people just don't like you.

   b. People who can't get others to like them don't understand how to get along with others.

8. a. Heredity plays the major role in determining one's personality.

   b. It is one's experiences in life which determine what they're like.

9. a. I have often found that what is going to happen will happen.

   b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In the case of the well-prepared student, there is rarely if ever such a thing as an unfair test.

    b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

I more strongly believe that:

11. a. Becoming a success is a matter of hard work; luck has little or nothing to do with it.

    b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in Government decisions.

    b. This world is run by the few people in power, and there is not much the little guy can do about it.

13. a. When I make plans, I am almost certain that I can make them work.

    b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a. There are certain people who are just no good.

    b. There is some good in everybody.

15. a. In my case getting what I want has little or nothing to do with luck.

    b. Many times we might just as well decide what to do by flipping a coin.

16. a. Who gets to be the boss often depends on who was lucky enough to be in the first place first.

    b. Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.

17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand nor control.

    b. By taking an active part in political and social affairs, the people can control world events.

18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.

    b. There really is no such thing as "luck."

19. a. One should always be willing to admit his mistakes.

    b. It is usually best to cover up one's mistakes.

20. a. It is hard to know whether or not a person really likes you.

    b. How many friends you have depends upon how nice a person you are.

I more strongly believe that:

21. a. In the long run the bad things that happen to us are balanced by the good ones.

    b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.

    b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I can't understand how teachers arrive at the grades they give.

    b. There is a direct connection between how hard I study and the grades I get.

24. a. A good leader expects people to decide for themselves what they should do.

    b. A good leader makes it clear to everybody what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.

    b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they don't try to be friendly.

    b. There's not much use in trying too hard to please people; if they like you, they like you.

27. a. There is too much emphasis on athletics in high school.

    b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.

    b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. a. Most of the time I can't understand why politicians behave the way they do.

    b. In the long run the people are responsible for bad Government on a national as well as on a local level.

Interpersonal Judgment

This booklet represents one aspect of a study being conducted on impression formation in a situation where a limited amount of information is available.

You are asked to rate an individual referred to as X on each of the following scales in this form. The only information that you have concerning individual X is that he is a 21-year-old male undergraduate at the University of Florida.

The only identification requested of you is:

Classification ______________________________

Age ___________

"Perceived Similar" Instructions*

I would like for each of you to think of all the persons that you are acquainted with and have met in the past. More specifically, I would like for you to think of those persons that you have considered as being most similar to yourself. Although you will probably not be able to remember all of them, you most likely have definite feelings and impressions about their characteristics and their way of behaving. On the basis of such feelings and impressions you are requested to complete the booklet which you have received. You are asked to consider the described individual as having those characteristics which you have seen in others and have considered as being most similar to characteristics which you see in yourself.

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*This title did not appear on forms given to students.

"Perceived Dissimilar" Instructions*

I would like for each of you to think of all the persons that you are acquainted with and have met in the past. More specifically, I would like for each of you to think of those persons that you considered as being most dissimilar to yourself. Although you will probably not be able to remember all of them, you most likely have definite feelings and impressions about their characteristics and their way of behaving. On the basis of such feelings and impressions you are requested to complete the booklet which you have received. You are asked to consider the described individual as having those characteristics which you have seen in others and have considered as being most dissimilar to characteristics which you see in yourself.

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*This title did not appear on forms given to students.

Evaluation and Attraction Scales

DIRECTIONS:

Rate person X on the following scales. Place a check mark in the scale division that best describes both how you feel toward person X and how much you feel that the term applies to him. Place your marks above the line, and do not mark the lines separating the scale divisions, as this will make it difficult to code your response.

Good ____|____|____|____|____|____|____ Bad

Dirty ____|____|____|____|____|____|____ Clean

Valuable ____|____|____|____|____|____|____ Worthless

Cruel ____|____|____|____|____|____|____ Kind

Pleasant ____|____|____|____|____|____|____ Unpleasant

Dishonest ____|____|____|____|____|____|____ Honest

Fair ____|____|____|____|____|____|____ Unfair

Would probably not like as an individual ____|____|____|____|____|____|____ Would probably like as an individual

Would be desirable as a work partner ____|____|____|____|____|____|____ Would not be desirable as a work partner

Low-intensity Outcome*

The individual referred to as experimenter (X) is a 21-year-old male undergraduate at the University of Florida. The experimenter (X) is taking a course in psychology 430, an individual work course. When X met with his advisor at the beginning of the quarter, he was informed that he was to design and conduct an experiment for the course requirement. He met with his advisor one time after this. At that time he informed the advisor that he wished to do an experiment in learning, to which the advisor agreed, even though there was no discussion of the procedure to be used. Since then, X has been working completely on his own.

DESCRIPTION OF THE EXPERIMENT

The experimental setting consists of two rooms, with a one-way vision screen set in the wall between the two rooms. In one room, a memory-drum is on a table. An individual seated at the table cannot see through the vision screen, but persons in the adjoining room can see him. The adjoining room contains a large table on which are several pieces of electrical equipment. One of these is an electrical shock generator, with three switches, each of them clearly designated with one of the following labels:

1. Slight shock
2. Mild shock
3. Moderate shock

EXPERIMENTAL TASK

The task of the person seated before the memory-drum consists of viewing a series of word pairs. At the end of the series, the first word for each pair is presented along with four terms, numbered from one through four. The individual indicates which of the four terms had originally been paired with the first word by pressing one of four switches in front of him, also numbered from one through four.

---

*This title did not appear on forms given to students.

EXPERIMENTAL PROCEDURE

There are three persons present when the experiment is being conducted, the experimenter (X) and two volunteers from introductory psychology courses here at the University. At the beginning of the experiment, X gives the two volunteers a general introduction on the presumed relation between punishment and learning. They are further told, "But actually, we know very little about the effect of punishment on learning because almost no truly scientific studies have been made of it in human beings."

At this point, the two volunteers draw slips of paper from a hat to determine which will be doing the learning (position A) and the one that will control the shock (position B). Immediately after the drawing, the volunteers are taken into the adjoining room where A is seated in the chair in front of the memory-drum. An electrode is attached to A's wrist, with the other end of the electrode being attached to the shock generator in the adjoining room. The experimenter (X) assures A that the shocks will not be experienced as more than a mild tingling sensation.

The experimenter (X) and the individual who is to occupy position B then go into the room containing the shock generator. Individual B is told that he is to administer a shock to A as punishment for each incorrect response given by A, and the operation of the switches is explained to B.

EXPERIMENTAL OUTCOME

Individual A was shocked with switch number three.

High-intensity Outcome*

The individual referred to as experimenter (X) is a 21-year-old male undergraduate at the University of Florida. The experimenter (X) is taking a course in psychology 430, an individual work course. When X met with his advisor at the beginning of the quarter, he was informed that he was to design and conduct an experiment for the course requirement. He met with his advisor one time after this. At that time he informed the advisor that he wished to do an experiment on learning, to which the advisor agreed, even though there was no discussion of the procedure to be used. Since then, X has been working completely on his own.

DESCRIPTION OF THE EXPERIMENT

The experimental setting consists of two rooms, with a one-way vision screen set in the wall between the two rooms. In one room, a memory-drum is on a table. An individual seated at the table cannot see through the vision screen, but persons in the adjoining room can see him. The adjoining room contains a large table on which are several pieces of electrical equipment. One of these is an electrical shock generator, with five switches, each of them clearly designated with one of the following labels:

1. Slight shock
2. Mild shock
3. Strong shock
4. Very strong shock
5. Intense shock

EXPERIMENTAL TASK

The task of a person seated before the memory-drum consists of viewing a series of word pairs. At the end of the series, the first word for each pair is presented along with four terms, numbered from one through four. The individual indicates which of the four terms had originally been paired with the first word by pressing one of four switches in front of him, also numbered from one through four.

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[*] This title did not appear on forms given to students.

EXPERIMENTAL PROCEDURE

There are three persons present when the experiment is being conducted, the experimenter (X) and two volunteers from introductory psychology courses here at the University. At the beginning of the experiment, X gives the two volunteers a general introduction on the presumed relation between punishment and learning. They are further told, "But actually, we know very little about the effect of punishment on learning because almost no truly scientific studies have been made of it in human beings."

At this point, the two volunteers draw slips of paper from a hat to determine which will be doing the learning (position A) and the one that will control the shock (position B). Immediately after the drawing, the volunteers are taken into the adjoining room where A is strapped into the chair in front of the memory-drum. An explanation is given that the straps are to prevent excessive movement while A is being shocked. An electrode is attached to A's wrist, with electrode paste being applied to avoid blisters. The electrode is attached to the shock generator in the adjoining room. The experimenter X assures A that the shocks will cause no permanent damage.

The experimenter X and B then go into the room containing the shock generator. Individual B is told to administer a shock to A as punishment for each incorrect response given by A. The experimenter (X) also tells B that part of the experiment consists of examining A after the experiment for recall of the task, as severe shocks have been found to cause memory loss for events immediately preceding the shock.

The operation of the switches is explained to B.

EXPERIMENTAL OUTCOME

Individual A was shocked with switch number five.

In this section you are to determine the extent of responsibility attributed to each of the three participants with regard to the specified outcome of the experiment. The outcome of the experiment was that A was shocked with switch number 5. If a person is responsible for something, that means that we might blame him for it or thank him for it.

Below, you will find the designations given to each of the three participants in the experiment. Beside each participant is a row of numbers. For each of the participants, if you think that particular participant was NOT responsible for the outcome, mark the zero in the line of numbers beside the designation for that participant. If you determine that particular participant was responsible for what happened, then mark one of the numbers from 1 to 10 in the line of numbers beside that participant's designation. If you determine he was VERY responsible, mark number 10. If you think he was less responsible, mark one of the smaller numbers. The less responsible you believe a particular participant to be, the smaller the number you mark. Do this for each of the three participants.

You are not limited to attributing responsibility for the outcome to any particular number of participants. The degree of responsibility attributed to any of the participants need not be influenced by the amount of responsibility attributed to any of the other participants.

Experimenter (X)	0	1	2	3	4	5	6	7	8	9	10
Individual A	0	1	2	3	4	5	6	7	8	9	10
Individual B	0	1	2	3	4	5	6	7	8	9	10

In this section you are to determine the extent of responsibility attributed to each of the three participants with regard to the specified outcome of the experiment. The outcome of the experiment was that A was shocked with switch number 3. If a person is responsible for something, that means that we might blame him for it or thank him for it.

Below, you will find the designations given to each of the three participants in the experiment. Beside each participant is a row of numbers. For each of the participants, if you think that particular participant was NOT responsible for the outcome, mark the zero in the line of numbers beside the designation for that participant. If you determine that particular participant was responsible for what happened, then mark one of the numbers from 1 to 10 in the line of numbers beside that participant's designation. If you determine he was VERY responsible, mark number 10. If you think he was less responsible, mark one of the smaller numbers. The less responsible you believe a particular participant to be, the smaller the number you mark. Do this for each of the three participants.

You are not limited to attributing responsibility for the outcome to any particular number of participants. The degree of responsibility attributed to any of the participants need not be influenced by the amount of responsibility attributed to any of the other participants.

Experimenter (X)	0	1	2	3	4	5	6	7	8	9	10
Individual A	0	1	2	3	4	5	6	7	8	9	10
Individual B	0	1	2	3	4	5	6	7	8	9	10

APPENDIX B

INDIVIDUAL RAW SCORES ON BOTH THE I-E SCALE AND THE ATTRIBUTION OF RESPONSIBILITY

Low-intensity Outcome

1. Perceived Similarity		2. Perceived Dissimilarity		3. Control	
I-E	AR	I-E	AR	I-E	AR
1	10	3	3	2	8
2	0	3	6	4	0
2	10	3	9	5	3
2	10	4	10	6	2
4	1	5	10	6	10
5	7	6	0	6	10
5	0	6	8	7	4
6	9	6	10	7	3
6	8	6	10	8	4
6	3	6	10	8	8
6	8	7	7	8	3
6	10	7	10	8	8
7	1	8	0	9	2
7	8	8	0	9	0
8	10	9	9	10	3
8	10	9	10	10	5
9	10	10	5	10	10
9	10	10	0	11	6
10	1	10	3	11	0
10	0	10	8	11	10
11	10	10	5	11	1
12	9	11	2	11	10
12	2	12	6	12	10
12	1	12	10	12	5
13	4	13	10	12	5
15	0	13	6	14	8
16	8	13	5	14	6
16	8	14	10	15	2
17	9	16	9	15	5
18	4	21	5	18	10

APPENDIX B--Continued

INDIVIDUAL RAW SCORES ON BOTH THE I-E SCALE AND THE ATTRIBUTION OF RESPONSIBILITY

High-intensity Outcome

1. Perceived Similarity		2. Perceived Dissimilarity		3. Control	
I-E	AR	I-E	AR	I-E	AR
2	0	1	10	3	8
2	3	1	10	3	10
5	3	3	9	4	8
5	3	4	9	4	9
5	3	6	8	4	10
6	10	7	4	5	2
6	4	8	10	6	5
6	10	8	9	8	5
6	9	9	10	8	8
6	10	9	7	8	10
6	1	9	9	8	10
6	10	9	0	9	5
7	9	9	6	9	8
7	5	10	10	9	8
7	10	10	7	9	2
8	0	10	6	9	10
8	0	10	9	9	10
9	5	11	3	9	6
9	6	11	10	10	3
9	0	11	8	10	9
10	3	11	9	10	9
11	1	11	8	11	10
11	10	13	8	12	9
12	2	13	9	12	5
12	3	14	7	12	9
12	5	14	7	15	10
16	10	15	0	15	9
16	3	16	10	16	4
16	10	16	10	17	10
17	7	18	10	18	3

APPENDIX C

GROUP RAW SCORES ON ATTRIBUTION OF RESPONSIBILITY

Low-intensity Outcome

1. Perceived Similarity	2. Perceived Dissimilarity	3. Control
3	7	8
2	4	2
9	3	10
4	4	4
5	7	5
10	5	7

High-intensity Outcome

1. Perceived Similarity	2. Perceived Dissimilarity	3. Control
4	10	8
1	6	8
8	10	5
6	8	8
5	7	9
8	9	8

APPENDIX D

NEWMAN-KEULS FOR INDIVIDUAL AR

$$s_{\bar{x}} = \sqrt{11.69/60} = \sqrt{.19} = .442$$

	r = 2	r = 3
$q_{.95}(r,174) =$	2.78	3.34
$s_{\bar{x}}q_{.95}(r,174) =$	1.23	1.48

Ordered Means

	Perceived Similar	Control	Perceived Dissimilar
	5.6	6.4	7.1
5.6	-	.8	1.5*
6.4		-	.7

*Significantly Different

APPENDIX E

INDIVIDUAL RAW SCORES OF EVALUATION OF THE HYPOTHETICAL OTHER

Low-intensity Outcome			High-intensity Outcome		
Perceived Similarity	Perceived Dissimilarity	Control	Perceived Similarity	Perceived Dissimilarity	Control
28	15	24	42	19	30
40	11	36	43	22	30
44	34	31	43	17	38
45	15	32	36	28	42
33	27	46	37	38	32
38	18	34	38	29	29
37	30	49	34	23	36
39	24	33	41	29	43
45	19	41	42	27	49
34	12	33	36	23	28
41	24	31	39	15	32
39	28	32	44	20	28
38	29	34	35	12	36
34	12	41	39	11	33
33	28	32	36	11	29
44	23	33	40	25	36
40	23	28	45	19	30
39	21	34	43	14	34
39	26	29	40	22	32
34	21	36	40	17	26
39	41	47	39	18	29
37	20	34	38	28	29
48	15	31	42	24	30
41	21	29	30	36	36
36	26	36	43	26	31
41	31	40	44	35	40
44	19	36	41	22	39
41	20	35	43	21	42
38	24	29	37	13	29
38	18	42	30	22	40

APPENDIX F

MEANS AND STANDARD DEVIATIONS OF
1. EVALUATION SCORES
2. ATTRACTION SCORES

1. Evaluation

	Mean	Standard Deviation
Low-intensity Outcome		
Perceived Similarity	38.9	4.22
Perceived Dissimilarity	22.5	6.74
Control	34.9	5.71
High-intensity Outcome		
Perceived Similarity	39.3	3.84
Perceived Dissimilarity	22.2	7.00
Control	34.3	5.50
Combined on Intensity		
Perceived Similarity	39.1	4.10
Perceived Dissimilarity	22.3	6.89
Control	34.6	5.62

2. Attraction

Low-intensity Outcome		
Perceived Similarity	11.5	2.25
Perceived Dissimilarity	5.8	2.50
Control	9.7	2.05
High-intensity Outcome		
Perceived Similarity	10.6	2.49
Perceived Dissimilarity	5.6	2.75
Control	9.5	2.04
Combined on Intensity		
Perceived Similarity	11.1	2.41
Perceived Dissimilarity	5.7	2.63
Control	9.6	2.05

APPENDIX G

NEWMAN-KEULS FOLLOW-UP ON
1. EVALUATION SCORES
2. ATTRACTION SCORES

1. Evaluation

$$s_{\bar{x}} = \sqrt{32.7/60} = \sqrt{.5450} = .734$$

$$q_{.99}\,(r,174) = \frac{r = 2}{3.68} \qquad \frac{r = 3}{4.18}$$

$$s_{\bar{x}}\,q_{.99}\,(r,174) = 2.69 \qquad 3.05$$

Ordered Means

	Perceived Dissimilar	Control	Perceived Similar	
	22.3	34.6	39.1	
22.3	-	12.3*	16.8*	Differences
34.6		-	4.6*	

*Significantly Different

2. Attraction

$$s_{\bar{x}} = \sqrt{5.77/60} = \sqrt{.0961} = .31$$

$$q_{.99}\,(r,174) = \frac{r = 2}{3.68} \qquad \frac{r = 3}{4.18}$$

$$s_{\bar{x}}\,q_{.99}\,(r,174) = 1.14 \qquad 1.29$$

Ordered Means

		Perceived Dissimilar	Control	Perceived Similar
		5.7	9.6	11.1
Differences	5.7	-	3.9*	5.4*
	9.6		-	1.5*

*Significantly Different

APPENDIX H

INDIVIDUAL RAW SCORES OF ATTRACTION OF THE HYPOTHETICAL OTHER

Low-intensity Outcome			High-intensity Outcome		
Perceived Similarity	Perceived Dissimilarity	Control	Perceived Similarity	Perceived Dissimilarity	Control
6	3	6	12	4	9
12	4	12	13	5	8
13	4	8	13	2	10
13	4	10	8	7	14
8	8	11	11	12	10
9	7	8	7	6	9
11	11	14	10	9	8
14	5	11	8	10	12
14	5	12	14	9	14
12	2	10	8	6	7
14	8	8	12	4	8
12	4	8	13	4	8
13	9	10	10	2	8
11	4	11	10	2	10
8	8	10	8	2	10
8	7	10	12	6	9
13	6	8	14	6	8
13	4	12	13	4	10
12	4	10	4	4	8
12	3	9	12	8	10
12	12	14	12	7	6
12	3	10	9	5	8
13	5	8	12	5	7
14	9	10	8	11	9
10	4	8	13	9	9
14	8	10	12	2	8
7	5	8	12	6	12
14	4	8	14	6	14
12	8	5	8	2	11
10	8	12	8	5	11

APPENDIX I

PERCEIVED LOCUS OF CONTROL SCORES AND ESTIMATIONS OF THE HYPOTHETICAL OTHER'S POSITION ON THE INTERNAL VS. EXTERNAL DIMENSION

(where 1 = internal and 7 = external)

Subject's I-E Score		Estimate of Other's Position
6		3
6		3
14		2
12		3
6		3
5		3
3		2
14		2
6		1
13		3
3		3
7		3
9		3
9		5
5		2
6		2
11		1
12		2
8.20	Mean	2.56
5.79	SD	.90

APPENDIX J

SUMMARY OF THE ANALYSIS OF VARIANCE FOR OUTCOME INTENSITY, PERCEIVED SIMILARITY, AND PERCEIVED LOCUS OF CONTROL SCORES

Source	df	MS	F
Locus of Control (I-E)	1	2.98	-
Similarity (S)	2	36.64	3.30
Outcome Intensity (I)	1	42.60	3.84
I-E x S	2	10.60	-
I-E x I	1	5.82	-
S x I	2	27.33	2.5
I-E x S x I	2	13.84	1.1
Error	158	11.08	

$F_{.90}(1,158) = 2.74$

$F_{.95}(1,158) = 3.91$

$F_{.90}(2,158) = 2.34$

$F_{.95}(2,158) = 3.05$

APPENDIX K

NEWMAN-KEULS FOR INDIVIDUAL AR (HIGH-INTENSITY OUTCOMES)

$s_{\bar{x}} = \sqrt{11.69/30} = .624$

	$r = 2$	$r = 3$
$q_{.95}(r,174) =$	2.78	3.34
$s_{\bar{x}}\ q_{.95}(r,174) =$	1.73	2.08

Ordered Means

	Perceived Similar	Control	Perceived Dissimilar
	5.17	7.47	7.73
5.17	–	2.30*	2.56*
7.47			.26

*Significantly Different

APPENDIX L

ANALYSIS OF VARIANCE FOR GROUP AR
(HIGH-INTENSITY OUTCOMES)

Source	df	MS	F
Similarity	2	14.9	3.9
Error	15	3.8	

$F_{.95}(2,15) = 3.68$

APPENDIX M

GROUP VS. INDIVIDUAL DIFFERENCES IN AR (MEANS AND VARIABILITY)

	t	F_{max}
Low-intensity		
Perceived Similar	<1.	1.5
Perceived Dissimilar	1.63	4.5
Control	<1.	1.4
High-intensity		
Perceived Similar	<1.	1.97
Perceived Dissimilar	<1.	2.85
Control	<1.	3.92
Combined on Intensity		
Perceived Similar	<1.	1.00
Perceived Dissimilar	<1.	1.07
Control	<1.	1.21

APPENDIX N

MEANS AND VARIANCES FOR BOTH GROUP AND INDIVIDUAL AR WITH THE INTENSITY OF OUTCOME DIMENSION COLLAPSED

		Perceived Similar	Perceived Dissimilar	Control
Group	M	5.4	6.7	6.8
	S^2	32.0	48.5	50.9
Individual	M	5.6	7.1	6.4
	S^2	31.9	52.0	41.9

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BIOGRAPHICAL SKETCH

Larry L. Lackey was born November 13, 1936, at Corpus Christi, Texas. In May, 1955, he was graduated from Taft High School. In August, 1962, he received the degree of Bachelor of Arts with a major in Psychology from Texas A & I College. In January, 1964, he received the degree of Master of Arts with a major in Psychology from the University of Texas. Following a sixteen-month period in which he held a position as claims representative with Continental National American, he enrolled in the Graduate School of the University of Florida. From September, 1965, he has pursued his work toward the degree of Doctor of Philosophy.

Larry L. Lackey is married to the former Sue Ann Walker and is the father of one child, Trann Lee.

This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Arts and Sciences and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August, 1968

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